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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,132	11/29/2001	Naoto Ohashi	SHC0159	5337
7590 03/16/2005				
Micheal S. Gzybowski Butzel Long 350 Main Street Ste 300 Ann Arbor, MI 48104			EXAMINER REICHLE, KARIN M	
			ART UNIT 3761	PAPER NUMBER
DATE MAILED: 03/16/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/997,132	Applicant(s) OHASHI ET AL. 	
	Examiner Karin M. Reichle	Art Unit 3761	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10-25-04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12-27-04 has been entered.

Claim Language Interpretation

2. With respect to the last two subsections of claim 1, the claim terminology "at a lower portion of the ... core" does not require the zone be at or form the lowest or lowermost portion of the core nor be at or form the lowest half of the core nor that the zone only be at or form a lower portion. As claimed, at least a portion of the zone just has to be at a portion of the core which portion is lower than another portion of the core. The claim terminology "a higher concentration ... grooves" does not require the concentration of the particles of the zone be highest in the vicinity of the at least one pair of grooves just higher in the vicinity than in at least some other portion of the zone. Therefore the last two subsections of claim 1 will be interpreted as requiring a core containing fibers and particles with particles being disposed in a single zone within the core which is coextensive with the width of the core and extends along the bottom of the at least one groove, at least a portion of the zone being at a portion of the core which portion is at least

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lower than another portion of the core and wherein the particles in such zone are disposed so as to have a higher concentration within a vicinity of the at least one pair of grooves than in at least some other portion of the zone. It is further noted that the zone is not required to be a planar zone, i.e. can be curved, nor have the superabsorbent uniformly distributed throughout. Claim 4 is interpreted as requiring some of the water absorbing fibers forming the core form a layer therein which layer is in close contact with the topsheet and has a higher density than at least some other of the water absorbent fibers which do not form such layer. Claim 6 is interpreted as requiring a particle distribution gradient in the thickness direction of at least a portion of the zone/core, i.e. it is not required that the density only increases. Claim 9 is interpreted as requiring a particle distribution density between the grooves higher than a density of at least a portion outside the grooves but not necessarily the highest density of the zone/core. With respect to claim 12 it is noted that the extent of the longitudinal center of the diaper compared to the remainder has not been set forth. It is also noted that the spacing is not required to be any specific dimension with respect to such extent of the longitudinal center, e.g. it does not have to extend the entire extent or could be greater than the entire extent, e.g. two grooves at opposite ends of the diaper only are spaced apart from each other in the center of the diaper. Finally it is noted with regard to claim 12 that the claim does not require that the spaced apart grooves be adjacent one another, e.g. could be spaced and have another groove or other grooves therebetween which are collinear or not collinear therewith. Also, since claim 12 is a dependent claim, i.e. further limits the claim from which it depends, and requires the grooves of the pair be collinear, claim 1, i.e. "aligned in a longitudinal direction", is interpreted as not requiring the

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grooves of the pair be collinear but merely requiring that a longitudinal straight line drawn from one end of the article to the other would intersect at least a portion of each groove of the pair.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenfeld et al '016 in view of Pieniak et al. '442, alone, or in the alternative also in view of Cole et al '104, and Toyoshima et al '118.

Claims 1-9: See Claim Interpretation Section supra and it is further noted that while the claims require a single "zone" they do not set forth that each portion of the zone must have a specific density of superabsorbent per unit area therein (It is noted that a such a density is not even disclosed). Applicant's zone includes portions which don't contain superabsorbent, i.e. between portions which contain superabsorbent.

In regard to claims 1-3, 5, and 7-8: see Figures, especially 1, 2, 4-5 and 7-8, col. 1, lines 19-21 and 26-29, col. 2, lines 6-24, col. 2, line 57- col. 3, line 47, col. 5, lines 22-29 and 35-57, col. 6, lines 31-39, col. 6, line 58-col. 7, line 17, col. 7, line 55-col. 8, line 3, col. 8, lines 13-19 and 40-42, col. 9, lines 16-32, and 40-63, col. 10, lines 10-13 and 33-50 and col. 11, lines 49-53, e.g. in Figure 7, the topsheet is 72, the backsheet is 74, the core is 1, the grooves are 50, the groove bottom is 56, the groove walls are 54, the fibers are 14, and the particles are 16. Claim 1 now requires substantially all of said superabsorbent particles contained within the core be localized in a single "zone" at a lower portion of the core. Note again the Claim Language

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Interpretation section supra. Turning to Rosenfeld '016, such "zone" is considered the two adjacent superabsorbent concentrations, e.g. 8 and 10 as seen in Figure 1 or similar to only 10 and 64 in Figures 4 and 5, which have had grooves 50 compressed thereinto, e.g. as seen in Figures 2 and 4-5, which concentrations can be adjacently located at any number of "lower" portions of the core, e.g. in the locations of 8 and 10 in Figure 1 or in the locations of 10 and 64 in Figures 4 and 5. (It is noted that while the '016 reference calls the two adjacent superabsorbent containing portions first and second "zones", those portions are compressed to form the grooves 50 therein joining the superabsorbent containing portions together, see, e.g., layers 10 and 64 in Figures 4 and 5 adjacent the grooves 50, to form two nonmutually exclusive superabsorbent containing portions with a superabsorbentless portion therein. '016 does not require the superabsorbent containing portions be discrete or mutually exclusive of each other but merely have superabsorbentless portions between at least some of superabsorbent containing portions. Therefore, the structure of the claims does not distinguish over the Rosenfeld structure regardless of whether such structure is called first and second "zones" or a "zone". It is further noted however the Applicant's invention also includes superabsorbent containing portions and portions which are superabsorbentless therein, i.e. the fibrous portions between the superabsorbent and fiber containing portions. Therefore the structure of Rosenfeld is considered as much a "zone" as claimed as is Applicant's "zone"). Such "zone" of '016 can extend across an entire surface, i.e. length and width, of the core. It is noted that claim 1 requires a higher concentration of particles within a vicinity of the at least one pair of grooves. This terminology has not been given a specific definition by Applicant so the usual or dictionary definition applies. See the Claim Language Interpretation section supra. Also, the American Heritage Dictionary

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defines "vicinity" as "The state of being near in space or relationship, proximity." In other words the term is relative. Thus, as, for example, shown in the Figures, a higher concentration of particles is shown around the grooves 50, see Figures cited supra. Thus the Rosenfeld et al device is deemed to teach a higher concentration in "a vicinity" of the grooves as claimed. It should be noted that since Rosenfeld et al also teaches that the "zone" including the bottom of the grooves can be formed with a homogenous mixture of fibers and particles or a gradient, if an area of such "zone" is densified to form the channels 50, the area below such channels will have a higher density or concentration of particles and fibers per unit dimension than other of the uncompressed areas of such "zone". It is also noted with regard to the claims 1-3, that the claims do not require direct joining between the portions of the grooves and the diffusive sheet and the diffusive sheet and the topsheet. Applicant did not provide a specific definition of the term "joining" so the usual or dictionary definition applies, i.e. could be direct or indirect attachment. Therefore, the Rosenfeld et al device includes all the claimed structure, as best understood, except for teaching an absorbent and diffusive sheet covering the core and thereby its joining to the polymer particles and topsheet along the grooves although it does teach the core can include a layer of tissue. However, see Pieniak et al, col. 10, lines 34-44, i.e. it is well known to wrap core in tissue to prevent dusting of particles and the tissue can thereby be joined to grooves of core, i.e. particles, and top sheet to enhance fit and aesthetics. To employ the tissue to wrap the core and join it to the grooves of the core as taught by Pieniak et al on the Rosenfeld device would be obvious to one of ordinary skill in the art in view of the recognition that it is well known to wrap the core with tissue to prevent dusting of particles and joining to the grooves of the core and topsheet would enhance the fit and aesthetics and the desire of such features in any

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absorbent article. It is also noted that such would necessarily improve the integrity of the core and col. 1, lines 19-21 and 26-29 of Rosenfeld. Figure 7 of Rosenfeld also shows a single nonplanar zone of particles coextensive with the width of the core.

The claims also now require at least one pair of grooves (claims 1-7) or at least two pairs of grooves (claims 8-9) which form a pattern in which each pair of the grooves are aligned in and spaced apart from each other in the longitudinal direction. See Claim Language Interpretation section supra. Therefore it is the Examiner's first position that Rosenfeld teaches such grooves, see Figure 8 wherein each pair of grooves is considered to include one groove in the middle of the article and one groove 50 in one of the ends of the article, because a straight line can be drawn and intersects at least a portion of each groove of the pairs of grooves and the grooves of each pair are spaced longitudinally from each other. In any case, i.e. the Examiner's second position, Rosenfeld at least teaches each of a pair of grooves, i.e. each of the grooves 50 in the middle of the article as seen in Figure 8, extending continuously in the longitudinal direction. Furthermore, while the instant specification discloses that the grooves 15 collect transversely flowing fluids to prevent leakage and spread such liquid longitudinally, it does not disclose the criticality of the groove pattern claimed, i.e. discontinuous grooves extending in the longitudinal direction over continuous grooves such as that shown by Rosenfeld. Also, Rosenfeld in addition to teaching the pattern discussed supra teaches there can be more than one pattern, i.e. embodiment of positioning, of the compressed channels or grooves 50, i.e. since it teaches "one embodiment" illustrated, infers other embodiments possible but not shown. It is noted that such compressed channels 50 would also inhibit the transverse flow of fluids and promote longitudinal spread of such fluids due to their shape, i.e. being longitudinally oriented at the sides

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of the article, and their densification. It is also noted that “channel” as set forth in Rosenfeld is defined by the dictionary as “A tubular passage for liquids” or “A course or passage through which something may be moved or directed”. Still furthermore, see Cole et al ‘104 at Figures 1-2 and 5B-C and col. 4, line 52-col. 5, line 17, and Toyoshima et al at Figures 1 and 7, col. 2, lines 3-4, col. 4, lines 6-8, col. 7, lines 40-42, col. 10, lines 4-7 and 41-61, i.e. interchangeability of an embossed groove pattern in which the grooves are continuous alone/and curved for a pattern in which the grooves are discontinuous alone/and straight. Therefore, to make the grooves of Rosenfeld discontinuous alone/and straight rather than continuous alone/and curved instead, if not already, such that they include pairs of grooves which are aligned and spaced in the longitudinal direction as now claimed would be obvious in view of the interchangeability of groove patterns as taught by Cole et al and Toyoshima et al especially in view of the lack of disclosure of the criticality as discussed supra.

Claim 4: see col. 2, lines 57-63, col. 3, lines 32-37 and Figures cited supra. It should be noted that since Rosenfeld et al also teaches that the zone including the bottom of the grooves can be formed with a homogenous mixture of fibers and particles or a gradient, if an area of such zone is densified to form the channels 50, the area below such channels will have a higher density or concentration of particles and fibers per unit dimension than at least other of the uncompressed areas of such zones, i.e. layer of fibers exists at the bottom of each groove which has a higher density than at least some fibers which do not form each such layer, and will be in close contact with the topsheet.

Claims 6 and 9: See Figures cited supra, Claim Language Interpretation section supra and col. 3, lines 12-30 and col. 7, line 55-col. 8, line 6.

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenfeld et al '016 in view of Pieniak et al. '442, Cole et al '104, and Toyoshima et al '118.

See discussion of the claims and the Claim Language Interpretation section *supra*. The discontinuous and straight groove pattern as taught by the prior art combination includes collinear grooves which are spaced from each other in the longitudinal center of the diaper.

6. Claims 1-8 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenfeld '884 in view of Pieniak '442, alone, or in the alternative also in view of Cole et al '104, and Toyoshima et al '118.

Claims 1-8 and 10-11: see Claim Language Interpretation section *supra*, especially with respect to the definition of "a lower portion of the core" and and note the claim language does not require "a lower portion of the core" to be, e.g., the lower 65% of the core only. Note the cited portions of '884, especially the Figures, *infra*, which show all the superabsorbent in a nonplanar zone which zone is positioned beneath some other portion of the core at the very least and with respect to the zone at the bottom of the grooves is located at a lowermost portion of the core.

In regard to claims 1-3, 5 and 7-8: see Figures 2 and 4-5, page 1, lines 17-18 and 21-23, page 2, lines 49-51 and paragraphs 12-14, 17, 21, 24-26, 30 and 33, e.g. in Figure 4, the topsheet is 33, the backsheet is 34, the core is 1, the grooves are 12, the groove bottom is 14, the groove walls are 13, the fibers are 7, the particles are 8, the single zone is 22 and 6 at a lower portion of the core, i.e. below some other portion of the core, which zone can extend across an entire surface, i.e. length and width, of the core. It is noted that claim 1 requires a higher concentration of particles within "a vicinity" of the at least one pair of grooves. This

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terminology has not been given a specific definition by Applicant so the usual or dictionary definition applies. The American Heritage Dictionary defines "vicinity" as "The state of being near in space or relationship, proximity." In other words the term is relative. Thus, as, for example, shown in the Figures, a higher concentration of particles is shown around the grooves 12, see Figures cited supra. Thus the Rosenfeld et al device is deemed to teach a higher concentration in "a vicinity" of the grooves as claimed. It should be noted that since Rosenfeld et al also teaches that the zone including the bottom of the grooves can be formed with a homogenous mixture of fibers and particles or a gradient, if an area of such zone is densified to form the channels 12, the area below such channels will have a higher density or concentration of particles and fibers per unit dimension than at least some of the uncompressed areas of such zone. Therefore, the Rosenfeld et al device includes all the claimed structure, as best understood, except for teaching an absorbent and diffusive sheet covering the core and thereby its joining to the polymer particles and topsheet along the grooves although it does teach the core can include a layer of nonwoven. However, see Pieniak et al, col. 10, lines 34-44, i.e. it is well known to wrap core in tissue, i.e. a nonwoven, to prevent dusting of particles and tissue can thereby be joined to grooves of core, i.e. particles, and top sheet to enhance fit and aesthetics. To employ the tissue to wrap the core and join it to the grooves of the core as taught by Pieniak et al on the Rosenfeld device would be obvious to one of ordinary skill in the art in view of the recognition that it is well known to wrap the core with tissue to prevent dusting of particles and joining to the grooves of the core and topsheet would enhance the fit and aesthetics and the desire of such features in any absorbent article. It is also noted that such would necessarily improve the integrity of the core and col. 1, lines 19-21 and 26-29 of Rosenfeld. It is noted that

Figure 4 of Rosenfeld also shows a single nonplanar zone of particles coextensive with the width of the core.

The claims also now require at least one pair of grooves (claims 1-7) or at least two pairs of grooves (claim 8) which form a pattern in which each pair of the grooves are aligned in and spaced apart from each other in the longitudinal direction. See Claim Language Interpretation section supra. Therefore it is the Examiner's first position that Rosenfeld teaches such grooves, see Figure 5, wherein each pair of grooves is considered to include one groove in the middle of the article and one groove in one of the ends of the article, because a straight line can be drawn and intersects at least a portion of each groove of the pairs of grooves and the grooves of each pair are spaced longitudinally from each other. In any case, i.e. the Examiner's second position, Rosenfeld at least teaches each of a pair of grooves, i.e. each of the grooves 12 in the middle of the article as seen in Figure 5 extending continuously in the longitudinal direction. Furthermore, while the instant specification discloses that the grooves 15 collect transversely flowing fluids to prevent leakage and spread such liquid longitudinally, it does not disclose the criticality of the groove pattern claimed, i.e. discontinuous grooves extending in the longitudinal direction over continuous grooves such as that shown by Rosenfeld. Also, Rosenfeld in addition to teaching the pattern discussed supra teaches more than one pattern, e.g. see page 6, lines 20-21, i.e. only two channels. It is noted that such compressed channels 12 would also inhibit the transverse flow of fluids and promote longitudinal spread of such fluids due to their shape, i.e. being longitudinally oriented at the sides of the article, and their densification. It is also noted that "channel" as set forth in Rosenfeld is defined by the dictionary as "A tubular passage for liquids" or "A course or passage through which something may be moved or directed". Still furthermore,

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see Cole et al '104 at Figures 1-2 and 5B-C and col. 4, line 52-col. 5, line 17, and Toyoshima et al at Figures 1 and 7, col. 2, lines 3-4, col. 4, lines 6-8, col. 7, lines 40-42, col. 10, lines 4-7 and 41-61, i.e. interchangeability of an embossed groove pattern in which the grooves are continuous alone/and curved for a pattern in which the grooves are discontinuous alone/and straight.

Therefore, to make the grooves of Rosenfeld discontinuous alone/and straight rather than continuous alone/and curved instead, if not already, such that they include pairs of grooves which are aligned and spaced in the longitudinal direction as now claimed would be obvious in view of the interchangeability of groove patterns as taught by Cole et al and Toyoshima et al especially in view of the lack of disclosure of the criticality as discussed supra.

Claim 4: see paragraphs 13 and 30 and Figures cited supra. It should be noted that since Rosenfeld et al also teaches that the zone including the bottom of the grooves can be formed with a homogenous mixture of fibers and particles or a gradient, if an area of such zone is densified to form the channels 12, the area below such channels will have a higher density or concentration of particles and fibers per unit dimension than at least some other of the uncompressed areas of such zones, i.e. layer of fibers exists at the bottom of each groove which has a higher density than at least some fibers which do not form each such layer, and will be in close contact with the topsheet.

Claim 6: See Figures cited supra and paragraph 13.

Claims 10-11: see page 5, lines 1-5 of Rosenfeld '884, and thereby Goldman '646 at col. 23, lines 13-18, col. 26, lines 53-62, col. 27, lines 15-30 and 39-41, the paragraph bridging cols. 27-28 and 29-30, col. 29, lines 24-27, claims 28, 32-34 and 42-45.

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenfeld et al '884 in view of Pieniak et al. '442, Cole et al '104, and Toyoshima et al '118.

See discussion of the claims and the Claim Language Interpretation section supra. The discontinuous and straight groove pattern as taught by the prior art combination includes collinear grooves which are spaced from each other in the longitudinal center of the diaper.

Response to Arguments

8. Applicant's remarks with regard to the informal matters have been noted but are either deemed moot in that the issue discussed has not been reraised. Applicant's remarks with respect to the prior art have been noted but are deemed not persuasive in view of the prior art rejections set forth supra.

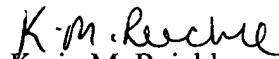
Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karin M. Reichle whose telephone number is (571) 272-4936. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Schwartz can be reached on (571) 272-4390. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Karin M. Reichle
Primary Examiner
Art Unit 3761

KMR
March 7, 2005